

**Notice of Allowability**

Application No.

09/367,153

Examiner

Devona E. Faulk

Applicant(s)

SIBBALD ET AL.

Art Unit

2615

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed on 4/24/2006.
2. ☒ The allowed claim(s) is/are 54-87.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some\* c) ☐ None of the:
- ☒ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |   |
|---|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)           |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                   |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance  |
|   | 9. <input type="checkbox"/> Other _____   |

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments, filed 4/24/2006, with respect to the rejection(s) of claim(s) 54-87 under 103 (a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection would have been made in view of 112 rejections.
2. The applicant agreed to an examiner's amendment to place the claims in allowable form.

### EXAMINER'S AMENDMENT

3. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Russell N. Swerdon (Reg. No. 36,943) on 7/10/2006.

#### **The claims are to be amended as follows:**

**Claim 54, line 2:** after "near field distance", insert - - less than or equal to about 1.5 m - -.

**Claim 54, line 5:** after "head", insert - - than the selected near field distance - - .

**Claim 66, line 3:** after "near field distance", insert - - less than or equal to about 1.5 m - -.

**Claim 66, line 6:** after "head", insert - - than the selected near field distance - - .

**Claim 75, line 2:** after "near field distance", insert - - less than or equal to  
about 1.5 m - - .

**Claim 83, line 11:** after "distance", insert - - less than or equal to about 1.5 m - - .

**Claim 83, line 11:** after "head," insert - - said near field distance being less than  
the reference distance, - - .

**Claim 83, line 1:** after "A", insert - - method for generating a - - .

**Claim 83, line 1:** delete "comprising ." and replace with - - having - - .

**Claim 83, line 3:** delete "said right signal and said left signal obtained by" and  
replace with - - comprising - - .

**Claim 83, line 11:** before "distance", insert - - sound source at a near field - - .

**Claim 83, line 11:** after "distance", insert - - less than or equal to about 1.5 m - - .

**Claim 83, line 11:** delete "said sound source to".

**Claim 83, line 11:** after "head," insert - - said near field distance being less than  
the reference distance, - - .

**Claim 83, line 12:** after "from the ", insert - - near field - - .

**Claim 84, line 1:** delete "two channel audio signal" and replace with - - method -  
- .

**Claim 84, line 2:** delete "factors" and replace with - - adjustments - - .

**Claim 85, line 1:** delete "two channel audio signal" and replace with - - method -  
- .

**Claim 85, line 2:** delete "factors" and replace with - - adjustments - - .

**Claim 85, line 3:** after "between the", insert - - near field - - .

**Claim 85, line 5:** after "the respective", insert - - near field - - .

**Claim 86, line 5:** after "for the", insert - - near field - - .

**Claim 86, line 3:** Claim 83, line 11: after "distance", insert - - less than 1.0 m - - .

4. Claims 54-87.

The following is an examiner's statement of reasons for allowance:

Regarding claims 54,66,75,83 and 86, the applicant's admitted prior art teaches of a method of providing localization cues to a source audio signal to perceive a sound source at a selected direction and a selected distance from a listener's head based on a head related transfer function (HRTF) pair (Figure 8), providing a two channel audio signal from the source audio signal (Figure 8),spectrally shaping the two channel audio signal based on the HRTF pair (Figure 8 and Introducing a time delay between the channels of the two channel audio signal based on an interaural time delay associated with the selected direction (Figure 8). Prior art Brungart discloses auditory localization in the near-field. Prior art Lambrecht (US 6,181,800) discloses a system and method for interactive approximation of a head related transfer function. Prior art Wood et al. (US 6,009,179) discloses a method and apparatus for electronically embedding directional cues in two channels of sound. Prior art Kohut et al. (US 6,067,361) discloses method and apparatus for two channels of sound having directional cues. Prior art Sibbald et al. (US 5,666,425) discloses plural channel sound processing. The prior art or combination thereof fails to disclose or make obvious providing localization cues to perceive a sound source at a selected near field distance that is less than 1.5 or

1 meters, based on a head related transfer function pair determined at some reference distance larger than the near field distance, wherein the spectral shaping is based on head related transfer pair at the reference distance and the gain is determined based on the selected near field distance. Therefore, the prior art or combination thereof fails to disclose or make obvious a method of providing localization cues to a source audio signal, an apparatus for processing a source audio signal as claimed.

Claims 55-65,67-74,76-82,84-85 and 87 are allowed due to dependency on claims 54,66,75,83 and 86.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Devona E. Faulk whose telephone number is 571-272-7515. The examiner can normally be reached on 8 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on 571-272-7848.

The Art Unit location of your application in the USPTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Art Unit 2615. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DEF



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